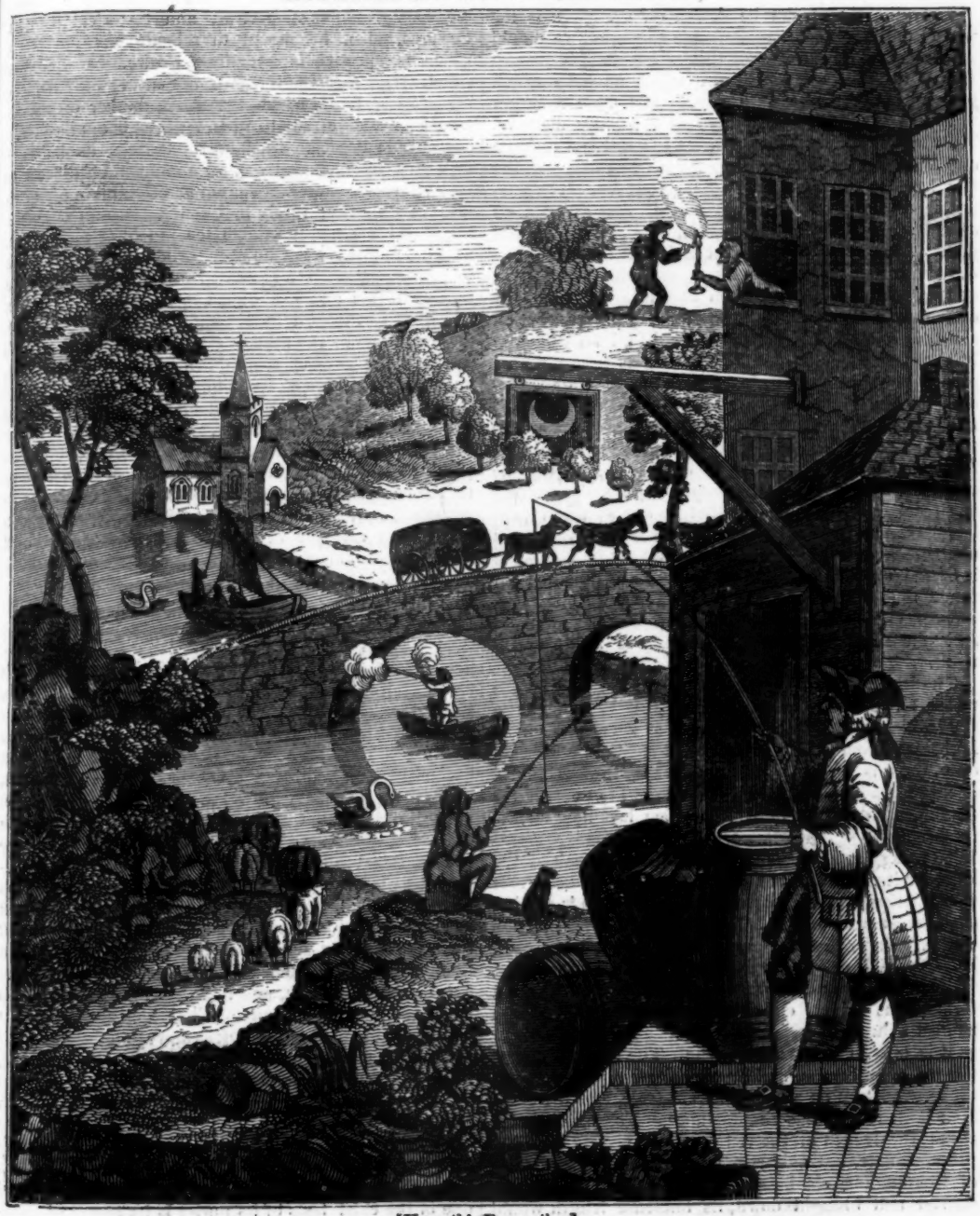
THE PENNY MAGAZINE

OF THE

Society for the Diffusion of Useful Knowledge.

163.] PUBLISHED EVERY SATURDAY. [OCTOBER 18, 1834.

HOGARTH AND HIS WORKS.—No. VII.



[Hogarth's Perspective.]

THE whimsical comedy of errors before us is a lesson given by Hogarth to his brother painters, though very much more caricatured than those which he bestowed on the rest of the world. Many who have general ideas on the subject of perspective will learn less from description of what it is, than from what they are here shown of what it is not.

There are but two principles in perspective, though the manner of carrying them into effect leads to a large number of subordinate rules. If a plate of glass were interposed between the spectator and the view, and the former kept his eye steadily in one position, he might, with a long brush, blacken the glass in such a way as just to hide one particular object, in all its parts, with-

out intercepting the light from any surrounding object. He would thus have what is called a correct outline, filled up with black. His second process must be to cover the black with shades of other colour, of tint and brilliancy altogether the same as those which did come from the object before the black was put on. If he could do this perfectly well, another person taking his place could not know that one of the objects he sees is painted on the glass, but would throw it back among the rest to the apparent place of the real object.

Everything that can be drawn on the glass is the proper outline of some conceivable shape, or, we should rather say, of an infinite number of conceivable shapes. For if we take any one figure which an outline will just hide, that same outline will just hide a larger figure of the same sort placed at a greater distance. Thus the outline of the man on the hill is a rational outline of a man, but too large for his position,—seeing that he is as tall as the tree he stands by. The burlesque of the figure consists in this, that as we must conceive him standing somewhere, we place him on that point of the hill which his feet hide: at the same time the outline is so well marked, and the shading so strong, that he cannot be on the hill,—but must be even nearer to us than the woman. Observe, that an artist who knew his business would find no difficulty in drawing a giant on a hill, as tall as a tree, with a pipe gigantic as himself, just in the line of a moderate-sized candle placed much nearer to the spectator, so that the candle should in the picture touch the end of the pipe,—that it should in reality fall in the line drawn from the bowl of the pipe to the eye. And this he could do, by preserving the proper degree of colouring or shading in such a manner that no one would suppose he meant the two objects to be near one another. In another respect, the object (we will not say he is a man) is of too dubious a character to hold a candle to; for worse than wizards in general, who, as we all know, throw no shadow, he throws his the wrong way: that is, if the row of trees below him are to be depended upon.

The boat is mounting on the bridge, followed by the water, for the keel is not visible. But this water is a fluid which will not find its level, as is evident on its horizon. From the appearance of it beyond the church-door, there is too much reason to fear that it has erected itself perpendicularly, and forced round the body of the church, aided by a distant tree which lays hold on the roof.

The waggon has taken fright at the approach of the boat, for it cannot be at the sportsman on the other side who is firing at the bird he cannot see, and is coming over the parapet of the bridge, on which it has got the further wheel before the nearer one is over: the horses, however, will not follow it, according to appearances, which shows their discretion, for the bridge is of a most tremendous height, clear from the fishing-rod of the nearest fisherman, which with all its elevation and near as it is, only just rises above them. The man who holds the rod, with the rod and line itself, are a piece out of a different picture on a very different scale, and the effect is heightened by this circumstance. For on that account the length of the rod does not appear very disproportionate, but only serves to increase the absurdity of surrounding combinations. If it had been made shorter and brought down, its immense length would have been more clearly seen, but then the frontage of the house would have been less incongruous.

The sign of the inn is another instance in which the effect of surrounding faults is increased by making a part more nearly true than the rest. The sloping beam looks more close under the arm which supports the sign than, from the position of the fastenings, it is possible it should be. To see the upper part of the arm in the manner shown, the spectator must be nearly on the level of the woman in the second story; yet it is plain that he looks up at the horses.

It has always appeared to us that Hogarth has, in this picture, rather overshot the mark which we conceive he proposed to himself. He meant to caricature the faults committed by many distinguished artists, who have frequently sinned deeply against perspective, particularly in the subordinate parts, or those which are of less importance to their immediate subjects: witness the backgrounds of portrait and historical painters. Perhaps, also, he meant to ridicule the manner in which perspective is sometimes avowedly sacrificed to effect. But this was certainly not successfully done by introducing faults which the worst dauber of canvass who ever took a pallet in hand never commits in any perceptible degree. Such, for example, as hiding a sign-post by distant trees, or diminishing objects as they approach nearer. The faults of painters are generally in quantity, rarely in quality. Many will paint sheep which either diminish too much, or not enough, as they recede: but who ever turned that which ought to be diminution into increase? And the same may be said of lights and shadows, which are seldom, if ever, transposed through negligence, though the proper degree of one or the other is diminished or exaggerated. Perhaps the subject was not a very favourable one, or could not have its intention made sufficiently manifest to people in general without some mixture of gross farce with the comedy. For the large world is not yet so well qualified to judge of pictures, upon this point at least, as artists are to draw them; any thing to the contrary about increasing love for the arts notwithstanding; and false perspective no more exaggerated than real life in the two apprentices would not be within the limits of perceptible caricature.

MINERAL KINGDOM.—Section XXV.

Iron.—No. IV.

To convert cast-iron into malleable or bar-iron, it is again melted in a furnace, and run out into moulds, when the impurities, which usually consist of earthy matter and oxidized iron, being lighter than the pure iron, rise to the surface, and are taken off. When it becomes solid, the process is repeated two or three times, until the iron, when stirred in the furnace, instead of being liquid, clots together into soft, pasty lumps. In this state, moderate-sized masses are taken out and are beaten, under an enormous hammer, moved by steam-power, called the "forge-hammer," into cakes about an inch thick. These cakes are subjected to a strong heat in another kind of furnace, and, when softened, one of them is taken out and beaten into a short bar, which is then welded to another of the cakes, which is beaten out in the same way, and thus by additions the bar is made of the desired length. The whole bar is then put again into the furnace, softened, and again beaten under the forge-hammer; and, when that process is finished, it is common bar or malleable iron. It has now lost all the carbon, oxygen, and earthy ingredients which existed in the cast-iron, and the more complete the separation from these the better is the iron. In place of being brittle and easily fusible, it has become possessed of great tenacity, ductility, and malleability; and one of the chief tests of its purity is its power of resisting a very violent heat without exhibiting any signs of fusion.

The quality of the iron smelted with coke from clay-ironstone, although greatly improved of late years, is, for many purposes, much inferior to the best qualities from Sweden, Norway, and Russia. The difference depends partly, perhaps, on the different nature of the best ores in these countries, but chiefly on account of

wood-charcoal being used in all the processes, from the first smelting of the ore to its conversion into bar-iron. In Siberia the charcoal is made from pine, and therefore is not so good as that in Sweden, where a great deal of hard wood is used, and this is very much in favour of the quality of the manufactured iron. It is said, however, that, although iron made by wood-charcoal is better for malleable iron and steel, it is not so good for casting as that made with coke.

How soon the art of manufacturing iron was practised in this country is unknown; but heaps of slags and cinders in many places now covered with deep soil, attest that the smelting of the ore was known to the early inhabitants. Previously to the early part of the seventeenth century it was entirely smelted with wood. In that part of the southern counties of England called the Weald of Kent, Surrey, and Sussex, the strata contain iron ores of different qualities in considerable abundance; and, where wood was plentiful, there were many furnaces in that district. These were of course abandoned when the cheaper method of smelting with pit-coal was discovered. The quantity of wood that was consumed in the iron-furnaces in various parts of England must have been enormous. Mr. Mushet calculates that the quantity of iron made at the time when the method of smelting by pit-coal was first discovered must have required 14,000 acres of wood to be felled annually for the sole purpose of supplying the furnaces. All the iron made in France at the present time is smelted with wood, and the consumption of the latter has been so vast,—so much beyond the growth of timber—as most materially to raise the price of fuel throughout the country. Notwithstanding this ruinous consequence, and the very high price which the manufacturer must pay for his iron, the government strangely persist in the injudicious policy of laying on a heavy duty on the importation of iron from other countries.

The discovery of smelting iron with pit-coal was made by one Dudley, about the year 1619; but such is the force of habit and prejudice, that many years elapsed before it was generally adopted. The manufacture of iron did not rise into very great importance until after the discoveries of Watt in the improvement of the steam-engine, when that power was applied to produce the blast in the furnace; for then furnaces could be erected wherever the ore and the coals were found, although there were no streams of water to impel the machinery. From that time the manufacture has been steadily progressive, and more iron is now made in Great Britain than in any other country of the world. Mr. Mushet states, in his 'Memoir,' in 1798, that the total amount of pig-iron smelted in Great Britain at that time did not exceed 100,000 tons annually; whereas now the produce of all the furnaces falls very little short of 700,000 tons. Dr. Thomson states, (in 1812,) that the total amount of iron manufactured in Sweden is under 65,000 tons annually.

The great seats of the iron manufacture of Great Britain are,—the Staffordshire, a few miles north of Birmingham, around Walsall, Bilston, and Dudley;—the South Wales, around Merthyr Tydvil, in Glamorganshire, and in the Forest of Dean, on the borders of Wales;—and the Shropshire, in and around Colebrook Dale. But, besides these, there are many considerable works in different parts of Yorkshire and Lancashire. One of the oldest and most extensive establishments is that of the Carron Works, near Falkirk, in Stirlingshire; and there are several in the neighbourhood of Glasgow. Clay-ironstone is found associated with the coal-measures of the Northumberland and Durham coal-fields, but not in sufficient quantity to make it worth while to erect any great works.

In that part of north Lancashire called Furness, and principally around Ulverstone, an ore of iron is found of a different nature from the clay-ironstone, being a compound of about 65 per cent. of iron, 30 of oxygen, and a small admixture of earthy ingredients. It is usually of a fibrous structure, and of a red colour, with a semi-metallic lustre, and is called by mineralogists "hæmatite," from a Greek word signifying "the blood." It is also called "bloodstone," which is the name by which it is known in the arts; it is used for making burnishing tools, and, when ground to fine powder, it is extensively employed as a polishing material by most workers in metal. A considerable part of the ore is still smelted with wood-charcoal, and produces a very valuable quality of metal: a great part of the best plate-iron and iron-wire is made from it.

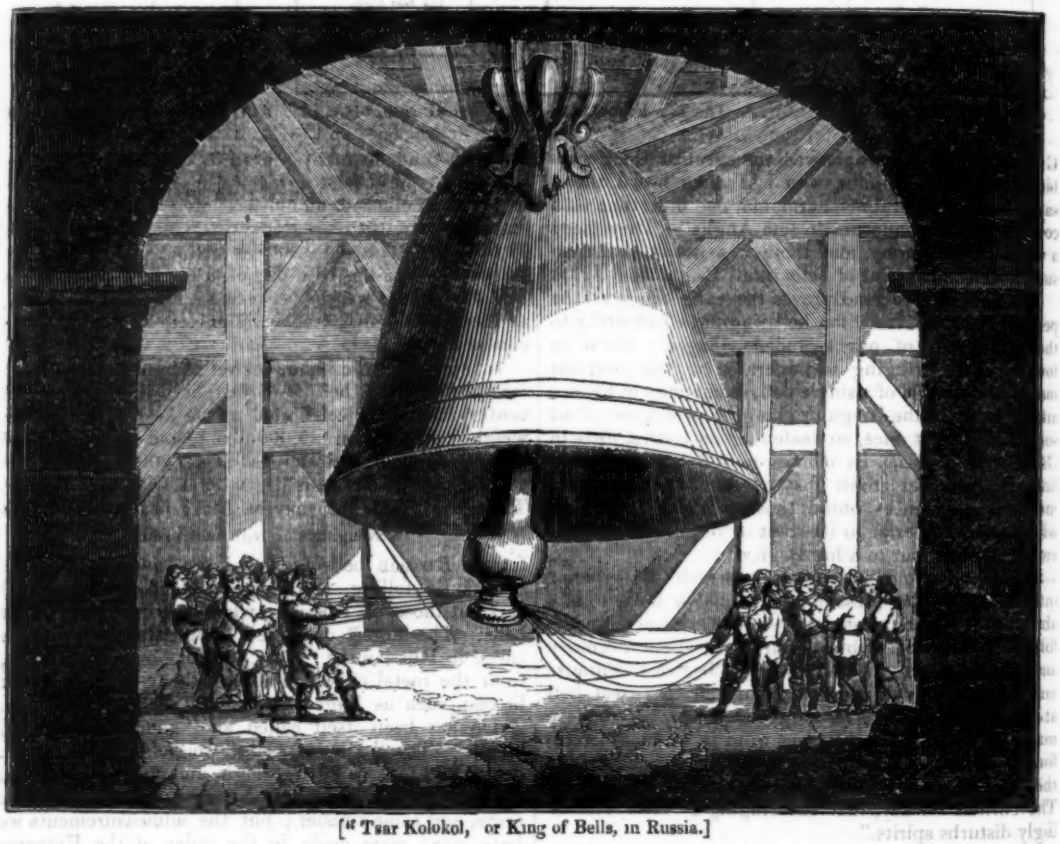
The next ore of iron which we have to notice as occurring in such abundance as to afford one of the great supplies of this metal, is that called by mineralogists "Magnetical Iron Ore,"—from its being not only attractable by the magnet, but as possessing itself polarity. It is composed of about 70 per cent. of pure iron, and 30 per cent. of oxygen; but it is seldom that the ore is found entirely free from foreign ingredients. The best Swedish iron is made from this ore, and the most celebrated mine of it is at Dannemora, about 30 miles north of Upsala, which has been worked for more than 300 years. Dr. Thomson visited it in 1812, and gives a description of it in his 'Travels in Sweden,' as does Iars, in his 'Voyages Metallurgiques,' in 1767, who says that the mine was then worked like a great stone quarry, open to the day, and of vast extent, and not underground, as mines usually are. The ore, after being roasted, is put into a furnace, with the requisite quantity of charcoal; but the addition of limestone is seldom necessary, because lime exists already in the ore. "The cast-iron obtained by this process is as white as silver, completely crystallized, extremely hard and brittle, and incapable of being applied to any useful purpose in that state. It is not liable to rust, and, indeed, this is a quality which Dannemora iron possesses both in the state of cast and of malleable iron. It is much less liable to rust than any other kind of iron whatever. This cast-iron is reduced to malleable iron by heating it in a bed of charcoal and oxide of iron, and hammering it out into bars while hot*." The cause of the superiority of Dannemora iron has never been satisfactorily explained. Another great mine of magnetical iron-ore is in the Mountain Taberg, in Sweden, situated a little to the south of the great lake Wetter, due west from Gothenburg. The uppermost bed of the mountain, which is 370 feet thick, has been wrought as an iron-mine for nearly 300 years. There were, in 1812, according to Dr. Thomson, 176 iron mines in different parts of Sweden; but many of them must be very insignificant, as the total produce is so small as 65,000 tons annually.

There are a few other ores of iron which are smelted for the purpose of obtaining the metal, the variations chiefly depending on the different proportions of the oxide of iron, and of the earthy ingredients with which it is combined. There are other ores which are applied to different purposes in the arts. One of the most common of these is that which is called "pyrites" by mineralogists, which is a combination of the iron with sulphur. The shining metallic bodies resembling brass, frequently seen in common blue roofing-slate, are iron-pyrites. In some situations, especially when found in the coal-measures, this ore is very liable to decomposition by the action of the air and moisture. In the act of decomposition heat is generated, and makes it advance more rapidly. This decomposition is also effected designedly for the purpose of collecting the produce, which is the salt called "sulphate of iron," or green vitriol. The process of decomposition is this: the

* Thomson.

sulphur combines with the oxygen of the air and of the water, when sulphuric acid is produced (or oil of vitriol, as the old chemists used to call it, and as it is still called in the arts); and the acid thus formed combines with the iron. When the decomposition is effected, the mixture is thrown into water, which dissolves the sulphate of iron; and, by carefully pouring off the clear solution and subsequent evaporations, the green cystallized salt is obtained. Mr. Aikin states that, in the Vale of Conway, in Caernarvonshire, iron-pyrites is decomposed for the purpose of obtaining the sulphur from it; and that the iron, which is converted by the process into red ochre, is sold for common paint and other purposes. The pencils said to be *red-lead* are made from a soft ore of iron;—that which is called "reddle," or red chalk, is a compound of oxide of iron and the earth of clay; but neither contain lead, any more than the so-called black-lead does.

BELLS.



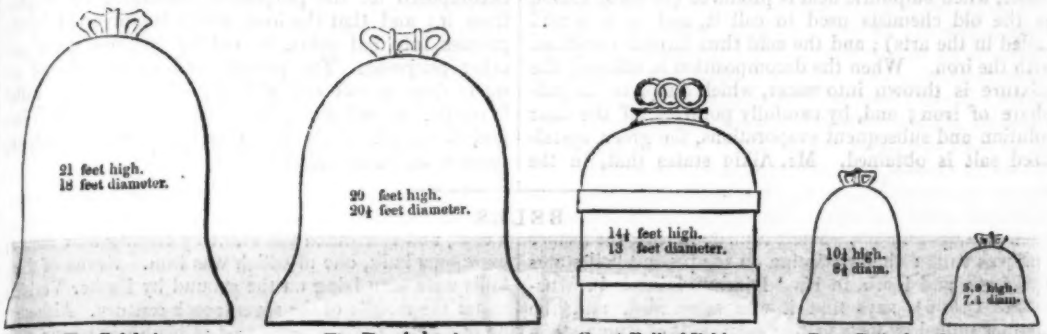
["Tsar Kolokol, or King of Bells, in Russia.]

The origin of bells is probably to be dated from the time when the sonorous property of metals was first noticed. A tinkling instrument of some sort was in use as early as the days of Moses, as it appears from Exodus xxviii. 33—35, where the priest is commanded to hang bells to his robe, in order by their sound to give notice of his approach to the sanctuary. Bells were also appended to horses as an ornament, (Zech. xiv. 20,) probably similar to those which are still used in many parts of Europe.

Small bells were used by the Greeks and Romans for civil and military purposes, and they were sometimes rung in temples to call the people to their religious duties. St. Paulinus, Bishop of Nola in Campania, at the end of the fourth century, is said to have been the first who used bells in Christian churches to call the people to prayer; for which purpose it had been customary until then to employ wooden mallets. Bells were gradually introduced into all the churches of the west, and also into many Greek churches, though the wooden mallet has been more generally used in the East. This latter practice was continued, during the independence of the Greeks, from choice, and afterwards enforced by the Turks, who abhor bells to such a degree, that the Turkish writer, Saadeddin, seems to consider the silencing the "detestable bells" as one of the great advantages of the capture of Constantinople. Such bells as the Greeks used were consequently destroyed, with the exception of a few in remote situations—as at Mount Athos, where the sound would not offend Turkish ears.

Large bells appear to have come into use in the sixth century; in the year 610, Clothaire II., King of France, when besieging the city of Sens, is said to have been so much alarmed at the hitherto unheard clangor of the bells in St. Stephen's church, that he retreated in affright, and abandoned the siege. They were very generally adopted in England as soon as parish churches were erected, and they gave rise to that remarkable part of ecclesiastical architecture the bell tower, it being thought necessary to elevate them in order that their sound might reach to a greater distance. The fervour of a man's piety being then estimated by the value of his gifts to the church, large bells were often presented by rich individuals. Turketul, abbot of Croyland in the tenth century, gave to the church of that abbey a great bell, which he named Guthlac, in honour of the patron saint of the place; and his successor, Egelric, who died in 974, presented six bells, to which he gave the whimsical names of Pega and Bega, Tatwin and Turketul, Betelem and Bartholomew. These bells were tuned to harmonize with the great

COMPARATIVE DIMENSIONS OF BELLS.
[One-tenth of an Inch to a Foot.]



The Bolshoi. The Tsar-kolokol. Great Bell of Pekin. Great Bell of Erfurt. Great Tom of Oxford.

Guthlac, and so agreeable was the effect of their combination, that Ingulphus, who had often heard them, says, "Fiebat mirabilis harmonia, nec erat tunc talis consonantia campanarum in tota Anglia"—They made a wonderful harmony, and there was not at that time such a well-tuned peal of bells in all England.

This peal of Croyland proves the early origin of the peculiar English taste for bell-ringing, so cheering to the inhabitants of our secluded villages. Even in towns our bell-ringing is preferable to the constant monotonous jingle of a single bell, so common in France and Italy, or to the irregular clanging of a dozen of all sorts and sizes at once, so deafening on festival days in Catholic countries. In chimes moved by clock-work, however, we must admit that our bells are at an immeasurable distance behind those of the Netherlands, which are as superior to the best of our clumsy contrivances as an organ to a hurdy-gurdy.

Bells were of old put to services which the superior intelligence of the present age seems to have totally abolished. What these uses were will appear from the following words of Aubrey, who wrote about a century and a half ago. "At Paris, when it begins to thunder and lighten, they do presently ring out the great bell at the abbey of St. German, which they do believe makes it cease. The like was wont to be done heretofore in Wiltshire; when it thundered and lightened they did ring St. Adelm's bell at Malmesbury Abbey. The curious do say, that the ringing of bells exceedingly disturbs spirits."

One of our most celebrated bells is the Great Tom of Oxford, which was cast, after two failures, on the 8th of April, 1680, from the metal of an old bell on which was the following curious inscription,—"In Thomæ laude resono bim bom sine fraude." From this the old bell was named Tom, though, on the restoration of Catholicism by Queen Mary, it was rebaptized by her name. Dr. Tresham, by whom the ceremony was performed, was so delighted with the sound of this bell under its new name, that he cried out on hearing it, "O bellam et suavem harmoniam, O pulchram Mariam, ut sonat musice, ut tinnuit melodice, ut placet auribus mirifice!"—Oh sweet and pleasant harmony, oh beautiful Mary, how musically it sounds, how melodiously it rings, how wonderfully it pleases the ears! It is a curious instance of the fondness for bell-ringing in England, that Dr. Tresham endeavoured to bribe the students at Oxford to come to the mass by the promise of some additional bells which would make the Oxford peal the finest in England. The Great Tom of Oxford is the heaviest we have: it weighs 17,000 lbs., and is 7 feet 1 inch in diameter at the brim, and 5 feet 9 inches high; its thickness at the striking part is 6 inches. The Great Tom of Lincoln was nearly as large as that of Oxford, but being thinner, weighed only 9894 lbs. This bell was cast the 3rd of December, 1610, and has not been rung for many years; its only use in the present century has been to strike the hours: some years ago it was quite cracked, and it has lately been resolved to cast a new one with additional metal, which shall weigh 12,000 lbs. The old bell was broken up, preparatory for casting, on the 18th day of June last. The great bell of St. Paul's weighs between 11,000 and 12,000 lbs., and measures nine feet in diameter, and not ten as commonly asserted.

In spite of these examples we cannot boast of very large bells. The bell of Erfurt, cast in the fifteenth century, and long celebrated as the largest in Europe, weighed more than 25,000 lbs.; and the people of Rouen estimate their largest at 36,000 lbs. But the country of great bells is, without dispute, Russia. There the great bell may be heard in full vigour, not

"Swinging slow with sullen roar,"

for the Russian bells are too large to be swung, but incessantly tolling, and booming, and deafening all ears but those of Russians, who almost worship their bells. The largest of these "mountains of metal" is called in Russian the "Tsar kolokol," or king of bells, from the metal of which at least thirty-six bells might be cast, each as large as the great bell of St. Paul's, which has been itself called an "enormous mass of metal." The "king of bells" weighs 400,000 lbs., or nearly 200 tons, is 20 feet high, and 20½ in diameter. Some travellers have stated larger dimensions than these, and some smaller; but the admeasurements we have given were made by the order of the Emperor Alexander, and reduced to English measure. This enormous bell is now lying in a cavity close by the Ivan velikii, or great Ivan, which is a tower belonging to the cathedral at Moscow. The tongue, which is 14 feet long and 6 at its greatest circumference, lies exposed at the foot of the tower; it weighs probably as much as some of our largest bells. An inscription on the bell states that it is made of the metal of a former one, which was cast in the year 1654, first rung in 1658, and greatly damaged by a fire on the 19th of June, 1701*. The inscription goes on to state that the Empress Anne added 72,000 lbs. of metal to the 288,000 lbs. which the old bell contained, and that the new bell was cast in the year 1734. This account makes the weight of the bell only 360,000 lbs., whereas several Russian authors state it at 12,000 poods, or 432,000 lbs. The truth is probably between the two. Much metal was brought by persons from all parts of Russia, and thrown into the furnaces while the bell was preparing; and the nobles vied with each other in

* The copy of the inscription given by Lyall, from whom we have taken this account, states 1668 as the year of its first ringing, and 1761 as that of its destruction. The last is obviously wrong, and the other probably so. The years of the world according to Russian usage are luckily added, which enables us to correct the errors as above.

casting in gold and silver plate, rings, trinkets, and ornaments of all kinds during the operation.

The Great Bell was suspended over the pit in which it now lies in the year 1737, on immense beams of wood, which were unfortunately destroyed by fire in the same year, by which accident a piece was broken out at the side large enough to admit two tall men to walk through abreast without stooping. It has of course never been suspended since. Some modern travellers, without a shadow of evidence, have denied that this bell was ever suspended, from the alleged impossibility of raising so great a weight. But mechanics will not admit such an impossibility. There is no doubt that the former bell was rung: the inscription on the present bell states the fact; and Korb, in his 'Diarium Itineris in Muscovia' (1698), says that it was suspended, and the clapper pulled by forty or fifty men, half of whom stood on each side. The great fracture in the side of this King of Bells is an evidence of its having fallen; such an immense piece, seven feet in height, could never have been broken out by the fall of water upon the heated metal, as alleged by those who deny the suspension of the bell. The Tsar-kolokol is ornamented with a bas-relief of the Empress Anne in her coronation robes, surmounted by the figure of our Saviour, between St. Peter and Anna the prophetess: on the opposite side is the Tsar Alexei Michaelowitz, in whose reign the former bell was cast; over the head of Alexei is our Saviour between the Virgin Mary and John the Baptist.

The largest bell now rung in Russia is that called the New Bell, which was cast in 1817; it is hung in the Ivanovskaya Kolokolnya, or the belfry of Ivan, near the King of Bells. It is 21 feet in height and 18 in diameter, and its tongue weighs 4200 lbs. The history of this is like that of the Great Bell. A bell called the Bolshoi (the Big), cast in 1710, and weighing 124,000 lbs., was hung with thirty-two smaller ones in the belfry of Ivan. In the French invasion of 1812, the belfry was almost destroyed, and the Bolshoi thrown down and irreparably damaged. In 1817, when the court was at Moscow, the Bolshoi was broken up, and additional metal given by the emperor to found a new bell, which should weigh 144,000 lbs. The new cast was made by a Mr. Bogdanof, on the 7th of March, 1817, in the presence of the Archbishop Augustin, who gave his benediction, and of almost all the inhabitants of Moscow, who, as in the case of the Great Bell nearly a century before, proved their devotion by throwing in gold and silver plate, rings, and other ornaments. On the 23rd of February, 1819, the New Bell was moved with great ceremony on a large wooden sledge from the foundry to the cathedral; a Te Deum was celebrated, and the labour of dragging the sledge committed to the multitude, who disputed the honour of touching a rope. The movements were regulated by little bells, managed by Mr. Bogdanof, who stood on a platform attached to the bell;—part of the wall was taken down to admit its passage, and, as soon as it reached its destination, the people leaped upon Mr. Bogdanof, kissing his hands, cheeks, and clothes, and showing, by every means in their power, the gratitude they felt at the restoration of their old favourite. Some days after this, the New Bell was slowly raised to the place of its predecessor, and properly suspended. It may be said of the New Bell, as Dr. Clarke said of the Bolshoi, that its sound "vibrates all over Moscow like the fullest and lowest tones of a vast organ, or the rolling of distant thunder." This bell is covered with figures in relief, representing the late Emperor Alexander, his Empress, and the Dowager; also the Grand Dukes Constantine, Nicholas (now Emperor), and Michael; our Saviour, the Virgin, and John the Baptist.

The only rivals to the bells of Russia are those of China, and they appear to be quite out of fashion since the empire lost its native princes in 1644. One measured by Le Comte at Nankin, about the end of the seventeenth century, was lying on the ground amidst the ruins of the belfry in which it had formerly hung; its height was 11 feet 9 inches English, with 2 feet more for the handle, and its diameter 7½ feet. The weight he computed at 50,000 lbs.: there were three more in the same situation.

The Emperor Yong-lo, who began his reign in 1403, transferred the seat of government from Nankin to Pekin, and celebrated the event by casting nine bells of enormous bulk, one of which was iron. Seven of these bells were seen lying on the ground by Father Verbiest about the middle of the seventeenth century. Although he had passed the greatest part of his life in China, their existence was unknown to him, and would probably have remained so, had not the aid of Europeans been wanted to suspend one of them. Verbiest describes the bells to be well cast, but of a more cylindrical form than those of Europe. He measured one of them carefully; the dimensions given by him are in Chinese measure, which we have reduced to English feet and inches: the height was 14 feet 5 inches, the handle 3 feet 8 inches more; the diameter was 12 feet 11 in., and the thickness 13 inches.

The Chinese bells are struck with wooden tongues, like their gongs: this is said by some to give a dull sound, while others describe their tone as very melodious. In our opinion a finer sound is produced by a wooden than a metal clapper, though certainly not so powerful. The shape, being so unlike those of Europe, may cause a difference of sound. If the opinion of Réaumur be correct, neither shape is the best for the production of sound. He states that a segment of a sphere is the shape most adapted for that purpose, and instances a piece of lead left to cool at the bottom of a round ladle, which will be found very sonorous, while in no other shape can lead be made to render any elastic sound whatever.

MEERZA ABUL HASSAN.—No. I.

Through the volumes which contain Mr. Morier's account of his first and second journies through Persia, there are dispersed many curious and interesting anecdotes of Meerza Abul Hassan*, who was, about twenty-five years since, the Persian ambassador to this country. The information concerning this person, which lies dispersed through these and other volumes, published at distant intervals, gives an interesting view of the Persian habits of thought and feeling; and we therefore propose to put it together, with the addition of some details from our own resources.

He was born at Shiraz, in the year 1776, being the second son of Meerza Mahomed Ali, a man famous in Persia as an accomplished scholar, and who was one of the chief secretaries of Nadir Shah. A remarkable anecdote is related of the manner in which this person was preserved from a fate to which public men in Persia are much exposed. In one of those fits of capricious cruelty so common to Nadir Shah in his latter days, he ordered that Mahomed Ali should be burnt alive, together with two Hindoos, who had also incurred his displeasure. The unfortunate Meerza, on hearing his sentence, remonstrated with the tyrant, entreating that he might at least be permitted to die alone, and that

* "Meerza," placed thus before a name, is an hereditary civil title; placed after a name, as "Abbas Meerza," it denotes a prince:—to say "*Prince* Abbas Meerza," is a pleonasm. "Khan" is, properly, a military title, but is now frequently conferred on civilians about the court, who still, however, retain the prefixed "Meerza," if they had it before; thus:—"Meerza Abul Hassan Khan."

his last moments might not be polluted by the society of men who were of a different faith from his own. To this request the Shah consented: the Hindoos were immediately executed, but the death of Mahomed was postponed to the following day. That very night the king was murdered in his tent, and Meerza Mahomed Ali was saved.

It was during the reign of the present king's predecessor and uncle that the family of Meerza Abool Hassan attained its highest degree of power. His maternal uncle was that able minister Hajji Ibrahim, whose name has been rendered so familiar to the English reader by Sir John Malcolm. The Meerza, and the other relations of the Hajji, shared with him in the administration of state affairs. The Hajji also gave him one of his daughters in marriage; and one of the others was given to a son of the king, and another to a person who afterwards became the second vizier of the kingdom. This Hajji Ibrahim is the person who, by his decision and good management, secured the throne for the present king on the death of his uncle. But when the monarch performed an act of ingratitude and barbarity, of which he has ever since repented, by destroying the minister who was as a right arm to him*, all his near relations shared in the proscription. Wherever residing, they were all seized in the same day and hour; some were put to death, others were blinded, and all their property was confiscated. Meerza Abul Hassan was at that time governor of Shooster: his elder brother was deprived of his sight, the youngest died under the bastinado, and the Meerza himself was seized;—his clothes were stripped from his back,—his hands were tied behind him,—and he was dragged as a prisoner to Koom, where the king then was. On his arrival, orders were given for his immediate execution. He was placed on his knees, his neck was made bare, and the executioner had already unsheathed his sword, when a messenger entered in haste and announced his reprieve. An old man who had known him from his boyhood, and cherished him as a son, when he heard of the order for his execution, threw himself at the feet of the king, and, pleading his youth and inoffensiveness, entreated that he might be pardoned. The king was softened, and granted his request. But Abul Hassan feared that the king might repent of his lenity towards him; and, after having sheltered himself for a time in the sanctuary at Koom, where he was fed by some women, who came to him under the pretence of paying their devotions at the shrine of the saint, he determined to leave the country until the anger of the king against his family should have subsided. It speaks well for his character that he fled first to Shooster, where he had lately been governor, and where, as his government had been lenient and temperate, he found a host of friends to relieve him, and was received with the hospitality for which the Arabs are remarkable. He dared not prolong his stay, and was leaving the place in misery and destitution when the inhabitants came to him in a crowd, and forced 7000 piastres upon him. After various wanderings, he embarked for India, and reached Calcutta at the time when the Marquis Wellesley was Governor-general. He resided in different parts of the country for two years and a half, at the termination of which he was at Bombay, and there received from the king a *firman* to return to Persia. He was assured that the king had forgiven him, and restored him to his favour. On his return, he found that his brother-in-law was become Ameen-ed-Doulah, or head-treasurer.

* He was degraded, and condemned to lose his eyes; and, when he exclaimed against the injustice and ingratitude of the king, his tongue was ordered to be cut out. He did not long survive. The king soon became sensible of the loss the country had sustained; and on all occasions of difficulty has been accustomed to exclaim, "Where is Hajji Ibrahim?"

When the English embassy of Sir Harford Jones became first acquainted with the Meerza, he was considered a person of much influence at court; and although he held no specific office in the government, he was in useful and active employment under his brother-in-law. He was ultimately appointed ambassador to the Court of London; and, on the 7th of May, 1809, left Tehraun for this country, in company with Mr. Morier.

In their journey through Turkey, the ambassador and his attendants were, on several occasions, made sensible of the difference between the physical condition and the usages of that country and their own. It is a trait of character not at all peculiar to the Persians, but it is amusing and instructive to observe to what an extent national jealousy against the Turks indisposed them to acknowledge the least superiority of any kind in Turkey and the Turks to themselves and their own country. Any comparison between the arid and unshaded mountains of Persia and the splendid foliage and rich vegetation of those parts of the Turkish dominions through which they passed was almost regarded as a gross national insult. As, however, they were keenly alive to the beauties of nature, and greatly enjoyed the shade of trees and the sound of running water, and as such spots frequently occurred during the course of their journey, they could not restrain their expressions of delight; though they would always add, at the same time, "What a pity this charming country is in the hands of these people! If we had it (and God grant we shall), what a paradise it would be!" This mode of expression is exceedingly characteristic of the Persians. It is quite true that things could hardly be worse managed than they are by the Turks; but the way in which the Persians manage their own country affords no evidence that Turkey would become a richer and happier land under their rule.

During the Meerza's stay at Constantinople, he was invited by the English ambassador to an entertainment, which consisted of a dinner under tents in the Buyukdere meadow, and a ball and supper, at night, in a house borrowed for the purpose. The Meerza did not seem at all astonished at the introduction of ladies into the society of men, as he had already acquired a general knowledge of our customs at the English settlements in India. But the attendants, who had just left the very innermost parts of Persia, by one common consent collected themselves together into a corner, and eyed every thing with the most anxious astonishment and attention. Their natural loquacity seemed to have quite forsaken them; and they sat with their mouths wide open, and eyes full-staring, and uttered not a single word.

But in the conduct of the Meerza and his people nothing was more striking than the truly Persian facility with which they adapted themselves to manners and customs completely adverse to their own habits of life. "I remarked two instances," says Mr. Morier, "during our stay at Constantinople: the first occurred one morning when I went to visit the Meerza, where one of his servants took off his cap, and saluted me, by a bow, in our fashion. Again, at a ball, several of his attendants took off their caps, and sat bald-headed*, from the supposition that it was disrespectful, in European company, to keep the head covered whilst they saw every one uncovered. There were many other accommodations to our usages which would never have been yielded by a Turk;—such as eating with knives and forks, sitting at table, drinking wine, &c." Since this was written, however, the Turks have gone farther in the adoption of European customs than Mr. Morier appears, at that time, to have imagined possible.

* All the Persians have their heads shaven; and are never seen uncovered, unless by accident.

From Constantinople the party removed to Smyrna, and remained there until their final departure from Turkey. On the 7th of September, 1809, they went on board the Success, Captain Ayscough, to proceed to England. The Meerza soon became perfectly reconciled to the usages of a ship; he slept in a cot, and always employed a knife and fork in eating. He did not miss a single opportunity of informing himself on every thing he saw on board; and whatever he learned he carefully noted in a book. This was, indeed, his constant practice all the time of his absence from Persia; and, after his return, his journal was read with great avidity by his countrymen. The practice of keeping a journal of proceedings and observations is not unusual among Persian travellers.

The attendants of the Meerza seem to have been so far influenced by the example of their master, that they were much more quiet on board the ship than might have been expected from the natural antipathy of Persians to the sea. They complained sometimes, however, of the badness of the water, the hardness of the biscuit, and the want of fruit. Mr. Morier was struck with their natural ignorance of relative distance. They had been always accustomed to calculate distances by menzils, or days' journies; and they were surprised to find it impossible to continue such reckoning. Such an extent of water seemed to them incomprehensible; and one of them gravely said to Mr. Morier—"This is quite extraordinary: this country of yours is nothing but water!*" All of them were particularly astonished that women and boys went to sea. The Meerza himself, seeing some women on board the Success, exclaimed, "Is it possible? If I were to tell our women in Persia that there were women in ships, they would never believe me. To go from one town to another is considered a great undertaking among them; but here your women go from one end of the world to the other, and think nothing of it. If it were even known in my family that I was now in a ship, and on the great seas, there would be nothing but wailings and lamentations from morning to night."

One of the other things that struck the Persians as most extraordinary on board the ship was the business of signals. They seemed very much inclined to think that Mr. Morier was imposing upon their ignorance when he informed them that, at six miles distance, they might ask any questions from another ship and receive an immediate answer; and that, when they should reach England, their arrival would be known in London in ten minutes, and every necessary order returned before they could get out of the ship. All these things the Meerza carefully noted down in his book, repeating the exclamation usual with him when anything strikingly useful was brought under his notice;—"God grant that all such things may take place in my country too!"

Having now brought Meerza Abul Hassan to our shores, we may pause, and make his proceedings in England, and on his return to Persia, the subject of another paper.

* It is the vulgar notion in Persia that the English, as a nation, live in ships upon the water, and have no territorial possessions, except in the countries of others. Our present Persians seem still to have retained a lingering impression of this sort.

BARBAROUS COMBATS IN JAVA.

COCK-FIGHTING is the principal amusement among the inhabitants of the Philippine Islands, and indeed of the whole Indian archipelago; but the cock is not the only animal from the choleric and courageous disposition of which they extract a brutal enjoyment. At Java, they even make fighting-matches between quails; and it is remarkable that, for the purposes of this amusement, the male is held in no estimation: it is too small and timid, and they therefore set a much higher value on the females, the irascible and determined character of which affords the most lively satisfaction to the amateurs of these cruel sports. Upon the strength and courage of such combatants these islanders often hazard considerable sums; indeed, to such a pitch of desperate puerility have the Javanese been carried by their gambling infatuations, that they sometimes venture all their property upon the direction which a paper kite may take. The object of each player in this game is to break the string of his adversary's kite; and it is not unusual, in Java, to see fifty or sixty paper kites flying one against another over a small town.

But there are other combats, in the same country, intended for the public amusement. These are generally between ferocious animals; and that between a royal tiger and a buffalo is preferred to any other. The buffalo and the tiger are introduced into a cage made of strong bamboos, and about ten feet in diameter. Their first rencounter in this contracted place is most terrible. The buffalo is always the assailant, and thrusts the tiger with fearful violence against the bars of the cage, endeavouring to crush him to death, while the tiger attempts to spring upon the head or back of his adversary. After the first shock, a parrying fight is usually maintained until one of the animals is enabled to seize an advantage. The advantage is usually with the buffalo in the first onset; but if he does not then kill or materially injure his adversary, the situation of the tiger much improves from his superior agility.

According to Stavorinus, the two animals are sometimes transported to a large plain, where an enclosure is formed by a four-fold line of Javanese, armed with pikes. When all is ready, men appointed to the work proceed to excite the rage of the poor animals before they are suffered to quit their respective cages. The buffalo is excited by a sort of nettle, the pricking of which is so insupportable as to irritate the most quiet disposition to a perfect fever of rage. While they are thus dealing with the buffalo, other men provoke the tiger by pricking him with pointed sticks,—by surrounding him with smoke (a thing he hates), and by throwing boiling water upon him.

The Javanese, whose perilous office it is to let the excited animals forth from their cages, are not allowed to leave the place, after they have done this, until they have several times saluted the prince, who then makes a sign for them to withdraw into the ranks with the other guards. They must then move off slowly, and are not permitted to run; but we do not suppose there is any thing cruel to the men in this regulation, as running would be more likely than a slow motion to draw the attention of the animals towards them.

It was customary, not long since, to make criminals condemned to death fight with tigers. The bodies of these miserable men were rubbed with *curcuma;* they were then clothed with a sort of yellow jacket, or waistcoat, and armed with a poignard, after which they were left exposed in the arena. Stavorinus relates a singular circumstance which happened to a criminal condemned to be devoured by tigers. When the poor fellow was thrown into the ditch in which the tigers were, he had the good fortune to fall astraddle upon the back of the largest of them, and from which the most mischief was to be apprehended. The animal, at this unlooked-for event, exhibited much astonishment and alarm; he did not himself attempt to injure the man, and none of the others dared attack him in this situation. This incident did not, however, save the poor wretch's life, for the prince gave orders that he should be killed.

In 1812, two men were exposed to wild beasts by order of the Sultan of Yugyukerta. Each of them was furnished with a poignard (*creese*), the point of which had been blunted; and the cage was opened, from which a tiger bounded forth. One of the criminals was almost immediately rent in pieces; but the other maintained the fight with his blunt dagger for nearly two hours, and with such success, that he at last killed his adversary by several wounds upon the head, and under the eyes and ears. At present, these cruel amusements are nearly at an end: they have, in general, as well as mutilation and torture, been abolished by various treaties with Europeans.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

LONDON:—CHARLES KNIGHT, 22, LUDGATE STREET.

Printed by WILLIAM CLOWES, Duke Street, Lambeth.